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ABSTRACT

Increasingly, educators are being challenged to find meaningful ways to meet the needs of nontraditional college students. A transdisciplinary model is useful in meeting these needs, in that it focuses on the individual and is characterized by a sharing of information and skills across traditional disciplinary boundaries. This model was conceived when others, such as the unidisciplinary, intradisciplinary, multidisciplinary, and interdisciplinary models, failed to accomplish their purpose. El Paso Community College, which serves a number of nontraditional students, has incorporated two transdisciplinary programs. The Faculty Mentoring Program assists students not so much with course content as with the learning and coping skills that they will need throughout their academic career. The faculty selected are those with both low attrition rates for high-risk courses and extensive teaching and counseling experience. The English as a Second Language (ESL) Credit Program offers students the benefit of learning English through courses designed by three different disciplines: ESL, Reading, and Speech. ESL students are required to enroll in three co-requisite courses at each skill level (two ESL and one Reading) and are advised to take a Speech course as well. Although neither program has been been evaluated, both have received positive responses from students and faculty and show promise for reaching nontraditional students. Additional information on the two programs is appended. (AJL)

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MEETING THE STUDENT'S NEEDS

A TRANSDISCIPLINARY APPROACH

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MEETING THE STUDENT'S NEEDS:
a Transdisciplinary Approach

by Gertrude Muro and Alice Wise

It is the traditional expectation that higher education focus on content, not the individual. By college age, adults are expected to be capable of separating their personal affairs from their academic experience. In that context, the teacher is the professional who provides information and, at best, encouragement and strategies for acquiring, retaining and using that information. Students who are not capable of meeting the standards set by the curriculum or the teacher are felt to be "not college material". They drop out of college, often never to be heard from again. The teacher, protected by his academic definition, continues to feed and be nurtured by those who are truly fit to succeed beyond the classroom into a promising career or occupation. Until recently,that is.

The last decade has significantly changed the profile of the college student. More adults are going back to school as both parents in a family are forced to become employed. The rapid changes occurring in technology and the likelihood of an individual having multiple careers in a lifetime are also drawing adults back into the classroom for retraining or for upgrading skills. The traditional student entering higher education immediately or soon after finishing high school is still there, but he is surrounded by peers who are older and who are attending

classes in addition to supporting a family. These newcomers are likely to be less skilled in classroom strategies (testing, listening, taking notes) and very impatient with content which is not immediately applicable in their environment.

The vast majority of studies defining the characteristics of the adult learner conclude that adults relate to material that is immediately relevant to their needs and that their needs may be considerable and sometimes overwhelming. It is also true that in order to deal with curriculum content, adults must be able to have their personal lives under control, something that is often not the case in a society with fewer and fewer invulnerable social structures. Adults are having to redefine their roles and their goals as well as reevaluate their ability to meet their basic needs. Their classroom experience may only be one small fragment of their complicated lives, and it often becomes one part too many. If adult educators intend to keep-up with the demands of the times, they must consider meaningful ways to meet the non-traditional adult student "on his own turf". They must devise strategies to focus on the individual and his total need rather than meeting his educational needs alone.

MODEL FOR INSTITUTIONAL PROGRAMS

There are several models for implementing programs in problem solving institutional frameworks. A transdisciplinary

model is the one most likely to focus on the needs of the individual, and the one recommended here as a basis for incorporating strategies around higher education curricula for adults. It is a model embraced by programs educating children with multiple disabilities, and characterized by a sharing, or transferring, of information and skills across traditional disciplinary boundaries (Orelove & Sobsey, 1987)to help an individual. In this approach, team meetings are directed by one or two persons who are primary facilitators of services, and other team members who act as consultants (Albano, Cox, York,J., & York, R., 1981). In this educational team, therapists, vital members who become involved to a greater extent in a consultative role to the teacher (Nietupski, Scheutz, & Ockwood, 1980) and other team members work closely together for the purpose of enhancing student performance.

The transdisciplinary model was conceived when other models such as the unidisciplinary, the intradisciplinary, the multidisciplinary and the interdisciplinary failed to accomplish their purpose. Whereas the unidisciplinary model entails possessing a sound preparation and competency in one discipline, professionals who adopt the intradisciplinary approach go one step further, sharing knowledge and skills among people of the same profession. The multidisciplinary approach, on the other hand, has its origin in the medical model, in which data are gathered by individuals from various areas of expertise and

reported to a single designated person (Stile & Olsen, 1980). Professionals within this model work in isolation from other professionals (Orelove & Sobsey, 1987). In some current special education programs, the multidisciplinary approach is used for initial assessment purposes. Mendelson (1967) and Sherr (1977) (cited in Stile & Olsen, 1980) maintain that the data gathered in this way often remain fragmented. As Hart (1977) points out, the teacher merely receives a separate report from each field, and is not given directions on the best procedure to be followed with the child.

In an attempt to avoid fragmentation of data among other shortcomings, many programs have gone one step further, and implemented the interdisciplinary model (Stile & Olsen, 1980). Here, client is evaluated independently by each team member, but recommendations for programming are made by group consensus. Although this is an improvement over the multidisciplinary approach, one major drawback is that implementation of recommended programs is frequently dismissed as separate from the team's responsibility (Hart, 1977) which then falls on the classroom teacher who does not have the administrative authority to carry the programs out. As a consequence, the handicapped often miss out on crucial services at a most critical time in their lives.

The transdisciplinary approach differs from other approaches in that this model attempts to integrate disciplines in an effort to encourage professionals from various fields not only to share knowledge and skills, but also to learn from team members of other fields in order to insure consistency in the client's program (Servis, 1978). The transdisciplinary approach moves beyond the interdisciplinary model, in which professionals from different fields assume responsibility for providing needed services and treatment within their own discipline (Sternat, Messina, Nietupski, Lyon, & Brown, 1977).

Transdisciplinary team work in its strictest form comprises six phases or roles. Each team member assumes a role to assess the student, design and implement instructional objectives within the member's own discipline, make recommendations for the student's future, engage in teaching and learning, learn new information from other disciplines, implement strategies and receive feedback from other disciplines, provide information, teach informational skills to other disciplines, train performance competencies in other disciplines, and follow up to ensure appropriate application, and utilize consultative back-up for complex interventions.

The transdisciplinary model is also used to some extent in settings other than primary and secondary schools. The Pre-Service Teacher Education for Teachers of Minorities (PETOM)

Program places a great emphasis on this approach in teacher education. The PETOM program, a cooperative endeavor of the Kamehameha Schools/Bishop Estate, the University of Hawaii Colleges of Education and Arts and Sciences, and the Hawaii State Department of Education, has as its main goal the preparation of teachers for the education of cultural minorities. These teachers, who have transdisciplinary knowledge bases, are trained to work collegially with other education professionals, and to develop competency in adjusting classrooms to students' preferred patterns of social organization, speaking, thinking, and motivation (Dalton, 1987).

Another institution of higher education which uses a transdisciplinary model is the Central YMCA Community College in Illinois. The STANDPOINTS, a model for general education which focuses on the common learning experiences crucial to the quality of personal and corporate life, bases its college curriculum on a transdisciplinary, transgenerational sequence, and affords continuity and shared experience (Moline, Mayfield, & Embree, 1982).

Transdisciplinary models can be devised to meet other needs. Williams (1983) states that over the past decade, there has been a growing movement to "deinstitutionalize" disabled persons. As a consequence, he says, educational services are adapted to fit the needs of these persons. He mentions the

growth of community services that support the handicapped and their families. Such services include sheltered workshops, group homes, early detection programs, supervised apartments, and adult education programs. Williams points out that the delivery of these diverse community services has required the participation, cooperation, and collaboration of professionals trained in many different academic disciplines.

It seems that curricula at all institutions would do well to center around a transdisciplinary model. Programs and courses adapted to a transdisciplinary context would benefit not only the student population, but also the faculty who would acquire knowledge and skills from colleagues of other disciplines. Teachers in higher education have little familiarity with the role of other disciplines in education, thus hampering the teaching process. Some authors, however, point out that the study of mankind falls into no one discipline, and that the attempt to understand humans calls for at least an interdisciplinary model, which may become a transdisciplinary approach by which man is seen as a whole entity, greater than the sum of his parts.

Disciplines are structured in such a way as to organize knowledge, and teachers must have a view of the whole composite not only for curricular planning, but for effective teaching within the context of the disciplines.

Dressel and Marcus sustain that patterns recurring in disciplines should guide their selection and organization of course content. If full educational development is to be attained, students must be exposed to the structures and interrelations among disciplines, and must be encouraged to recognize the connections between their education and the larger patterns within the disciplines, thus leading students to search for interdisciplinary and transdisciplinary solutions to complex academic and societal issues. Teaching within a discipline must stress the way the subject of study is interwoven with those of other fields, beyond the demarcations of single disciplines. Students should be made aware of both the interrelations and the distinctive features of other areas to obtain a comprehensive and integrated understanding of the educational experience.

If professionals in various disciplines are willing to alter their traditional beliefs and practices, to share their expertise with colleagues in other disciplines, and to expand their own competencies, and if these instructors are also willing to give up some of their own time for their slow learners, the students will not be the only one to benefit - society at large will gain immensely from the consequent decrease in the number of drop outs from educational institutions.

EL PASO COMMUNITY COLLEGE PROGRAMS

El Paso Community College, a border college, serves a considerable population of non-traditional students. It is fortunate to benefit from an administrative philosophy which encourages creativity among its personnel. College president, Robert Shepack, has referred to himself as Chief Risk Taker for the institution, setting the stage for others to follow. Faculty and staff are encouraged to be entrepreneurs, using their experience in the institution to promote new and exciting ways to create an environment for growth and learning among all participants in the College's programs.

In such an environment, it is natural for the College to support a wide variety of activities where faculty and staff among all three campuses and several satellites are able to share information, knowledge, wisdom, or just plain fun across traditional discipline barriers. College-wide committees are given the task of constantly targeting and evaluating issues to improve programs and services. The Charrette process is an innovative concept where faculty, staff, and community representatives gather to evaluate programs and set goals for the following five years. The President's Writing Project recruits qualified faculty every semester to uncover interesting stories developing throughout the wide-spread institution and publish articles about them for readers throughout the nation. Other

faculty development strategies include a faculty fall pic-nic supported by the institution but planned exclusively by faculty from all disciplines; an extensive faculty orientation period, where faculty led workshops are offered throughout the three days preceding registration every semester; a faculty development monthly newsletter; and a faculty Resource Center with computers and a professional library.

In addition, several college programs are designed to include faculty from several disciplines. The General Studies Program is designed to have faculty from all disciplines develop courses with general studies objectives, to be included under requirements for that major. The Master Teacher Program has teachers from different disciplines observe each other in the classroom and create and environment of growth based on that observation. The Writing Across the Curriculum Program also joins faculty across the curriculum to focus on writing strategies which can be applied in any class. Finally, Friday evening no-host dinners join hands across the curriculum for fun and relaxation at the end of the traditional working week.

Whereas the above programs and others provide excellent ground for growth in the college environment, they center around personnel and program. There are few projects anywhere in higher education which join the efforts of faculty and staff from different fields to promote the interests and development of a

single student. EPCC has at least two efforts worth mentioning as an example of modified transdisciplinary projects in place at El Paso Community College. They are modified in that they do not operate through the strict role definitions of the model. They do, however, bring together faculty and staff from different departments to discuss barriers facing individual students at the College. This informal network also makes decisions concerning the best approach to assist each student in overcoming those barriers to reach his personal and career goals.

FACULTY MENTORING PROGRAM

The Faculty Mentoring Program is a relatively new effort at EPCC, funded by the U.S. Department of Education. It is based on the theoretical framework of the Supplemental Instruction Program developed in 1975 at the University of Missouri in Kansas City. Eighty -five community colleges and other institutions of higher learning in the United States are presently implementing the program.

The purpose of the Mentoring Program is to assist students not so much in course content but in developing effective learning and coping skills which will serve them throughout their academic experience and beyond. Faculty for the program are selected from those considered to be excellent teachers of high risk courses -those which have a consistently high attrition

rate. As such, mentors have extensive experience in teaching and counseling (a consistent element in high risk course teaching) college students with a history of problems which are likely to lead to attrition. These mentors enter the program by recommendation from their Division Chair and receive overload time for their participation, which includes three one hour non-credit group sessions per week throughout the semester with students from their courses, in addition to monthly meetings with other mentors in the program. All mentors are also required to participate in a full day of training before the semester begins.

One of the objectives in the program is to have students develop a close relationship with the faculty mentor. The trust which unfolds from that contact provides fertile ground for mentors to focus on the real needs of students. Mentors from different disciplines share their perspectives on individual learners and gain from each other's experience and insight. The result is that the individual student has valuable information and assistance being channeled through his mentor from teachers in different disciplines who care about what happens to each student in the program. They also know that they are part of a supportive network of caring professionals to whom they have access during the semester.

Appendix A includes a more complete description of the

Faculty Mentoring Program at El Paso Community College.

ESL CREDIT PROGRAM

The ESL Credit Program at El Paso Community College is probably the largest of its kind in the United States, with close to 17,000 course enrollments every year. It is unique in that it offers each student in the program the benefit of learning English through courses designed by three different disciplines: ESL, Reading and Speech, all of which fall under the Communications Division.

ESL students enroll an intensive curriculum which requires that they participate in at least three co-requisite courses at each level (2 ESL and one Reading) and suggests that they take a Speech course as well to complete a full 12 hour load. Full-time students take English at least three hours a day. The ESL curriculum includes six levels, beginning with a Readiness level, which prepares students from very limited educational backgrounds to handle the demanding curriculum which follows. To enter the ESL program, a student must take a test designed by the department, to place him at the appropriate level (refer to chart in Appendix B). Thereafter, a student must pass the courses of one level before proceeding to the next.

However, students who want to register by mail must do so

before the end of the semester, when exit exams determine his capacity for handling the courses in the following level. It is at that point that teachers from each of the three disciplines gather and agree to recommend that a student register for the next level or repeat , based on the student's performance to that point. The communication and agreement required for that task leads to a discussion focused on the individual student.

Because of the cooperative nature of the program, teachers who share the same students at each level tend to dialogue throughout the semester about students they have in common. The vast majority of credit ESL students come from underprivileged backgrounds, and their problems often seem insurmountable. They range from fear of educational institutions, to problems resulting from poverty, violence and abuse. It is not uncommon for teachers from the three disciplines to share their resources and design strategies to specifically help a student overcome a particular barrier, whether in the content area or in the personal realm. Joining these teachers are college ESL counselors, language lab staff, staff from the Services for the Handicapped and others (see Appendix C) who form part of the team working on behalf of the student.

The faculty and staff team work which focuses on providing every possible assistance to the "high risk " EPCC ESL student is a clear example of how the transdisciplinary model can be

modified and implemented to adapt to programs which naturally include faculty and staff from different areas of the college.

EVALUATION

Unfortunately, instruments have not been in place to track ESL students through their completion of degree or certificate programs at the College. Certainly, completion of a defined college curriculum is recognized as one criteria for success, and the Department hopes to have that information in future semesters. What teachers do know and can attest to in the ESL program is that students continually state that were it not for the attention and guidance and assistance they received during times of crisis, they never would have taken another college course.

An ESL Charrette is being held on March 3, 1989, to assess the ESL program. The Charrette process, referred to in earlier sections, is one which carefully analyzes every aspect of a College program and makes recommendations for goals to be achieved in the following five years. It is hoped that one of the recommendations from the ESL Charrette is to provide the administrative support to implement a practical system for tracking students through later course work in order to adequately assess and improve the program's academic effectiveness.

Given the recent implementation of the Mentoring Program at EPCC, evaluation through the regular curriculum can not yet assess the eventual success of the project. However, the program is currently compiling results from teachers' evaluations on the techniques taught, and students' evaluations on how they perceived the effectiveness of the program. Pre and post study skills inventories show a significant increase in the ability of most students in the Mentoring project to take tests, keep notes and acquire the material being presented in regular classrooms. The project also has data on students in the same course who participated in Mentoring and those who for various reasons did not. Once enough control groups are used to provide a basis for drawing conclusions, these results will also be made available. The expected results, of course, are that those who participated in Mentoring have been more likely to remain in school and succeed in meeting their academic goals.

It is worth noting that the response from students who attend Mentoring sessions is overwhelmingly positive, as is the support from the faculty and staff involved. Faculty asked to participate for a second time have done so enthusiastically.

CONCLUSION

The key to helping adult non-traditional students is the individualization of the attention given to that student in the academic environment. A transdisciplinary model is an ideal approach for putting the student's need into proper perspective. Although the original model may be too cumbersome or impractical in many college settings, its premise can serve as the basis for establishing student centered communication among professionals who are most likely to make a difference in that person's life and life pursuits.

APPENDIX A

FACULTY MENTORING PROGRAM OVERVIEW

The Special Services grant recently funded by the U.S. Department of Education includes a faculty mentor component designed to aid retention efforts in high attrition courses. The faculty mentor component is based on the theoretical framework of the Supplemental Instruction Program developed in 1975 at the University of Missouri in Kansas City and currently being used in eighty-five community colleges, four year institutions and universities thoughout the country. This program provides academic support services by focusing on high risk courses and serving students on a group outreach basis rather than in a learning center or in a tutoring situation. The rationale for this approach is that student attrition is highest at the beginning of the semester and there is not always time for remedial efforts to have an effect; high risk students are less likely to seek help; learning centers or tutoring programs frequently have a remedial image and many students don't identify themselves as remedial; and furthermore, standardized testing does not always correctly identify students who may be unsuccessful in classes.

The Special Services faculty mentor program is designed to assist students to not only understand course content but also to develop effective learning, thinking and study skills. Fifteen excellent faculty who teach high risk courses will be selected to participate in this program and will be given three hours of overload time for their efforts. Overload time will include: three one hour non-credit group sessions per week throughout the semester for students enrolled in content courses, one additional hour to provide one on one assistance to students, and another 2 hours for prep time (including meetings).

In the group sessions, the faculty mentor will review the content of his or her course and also assist students to learn how to learn the content of the course. They will help students develop thinking and reasoning skills, higher level questioning skills as well as such study skills as notetaking, study reading, preparing for exams, developing vocabulary and memory techniques.

To help students develop these skills, the faculty mentor will incorporate various instructional strategies into the sessions such as: using note processing; giving informal quizzes; predicting test questions and course direction; and developing matrices, practice exams, review sheets and handouts. The mentors will not reteach the content but rather assist students to learn the material already presented in the lectures and in assigned readings.

In a sense, the group sessions are rather formalized study groups with the faculty mentor serving as a role model to help the students understand the process of learning the content. By the end of the sessions, students should have developed and applied study techniques which will assist them in the rest of their courses. They will have successful experience in asking questions of faculty members. They will also have developed a close relationship with a faculty member. Through this mentoring relationship, students will increase their self confidence and motivation. The overall effect of the mentoring program should be a decrease in the attrition rate of high risk courses and an increase in students' ability to succeed in school and become independent learners.

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A Training Workshop for the 15 selected faculty mentors will be held prior to the beginning of the fall semester. The focus of this workshop will be to develop an understanding of the program and the students involved in the program, to train mentors in instructional strategies appropriate for the study groups and to present techniques to help students develop effective learning, study, and thinking skills.

The mentoring program is a proactive retention effort because it begins at the start of the semester before students experience difficulty. It is closely tied to a content course so that students can immediately apply what they learn. Students interact a great deal with each other and develop a close relationship with their instructor. The instructor receives useful feedback from the student.

PROCESS

Selection of Faculty Mentors

1. Excellent faculty from high risk courses will be recommended to be faculty mentors.
2. Letters will be sent to these faculty members inviting them to apply.
3. Interviews will be conducted with those that apply.
4. Fifteen faculty mentors will be selected to participate in the program for Fall 1987 semester.

Qualifications for Faculty Mentors

1. Teach high risk course (a minimum of 30% of the students earn D's, F's, or W's).
2. Evidence of excellent teaching skills.
3. Desire to assist students in developing better thinking, learning and study skills.
4. Interest and willingness to participate in an innovative yet structured instructional program.
5. Commitment to the needs and concerns of non-traditional high risk students.
6. Somewhat flexible work schedule.
7. Willingness and ability to work with students individually and in small groups.

Responsibilities of Mentor

1. Meet with Project students outside of the classroom in scheduled study group sessions 3 times per week to help them to develop skills in learning content material, to help them develop positive and productive attitudes regarding learning content material and to help them build their confidence.
2. Work with individual students who need extra assistance to foster their interest in learning and acquiring background knowledge in the courses that are presenting problems.
3. Plan specific instructional strategies and prepare materials for study sessions.
4. Keep records on students attending sessions.

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5. Attend occasional scheduled meetings to discuss problems and progress of students, to ensure coordination of program and to participate in inservice training.
6. Complete evaluations.

*Record keeping will be kept as simple as possible and clerical assistance will be provided when possible.

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APPENDIX B

EPCC ESL CREDIT PROGRAM

LEVEL	COURSES			
READINESS	ESOL 3001	ESOL 3002	ESOL 3003	SPCH 3000
BASIC COMPETENCE				
I	ESOL 3101	ESOL 3102	READ 3101	SPCH 3001
II	ESOL 3103	ESOL 3104	READ 3102	SPCH 3002
III	ESOL 3105	ESOL 3106	READ 3103	SPCH 3003
IV	ESOL 3107	ESOL 3108	READ 3104	SPCH 3004
BILINGUAL OPTION				
V	ESOL 3110	READ 3105		
VI	ESOL 3111	SPCH 3100		

APPENDIX C

CONTRIBUTING GROUPS AND SERVICES TO ESL PROGRAM

COUNSELING AND ADVISING
- CAREER
- ACADEMIC
- FINANCIAL
- PERSONAL

HANDICAPPED SERVICES

WOMEN'S CENTER

OCCUPATIONAL PLACEMENT

LIBRARY

TESTING AND PREPARATION

TUTORING/LEARNING RESOURCE CENTERS

LANGUAGE LABS

OTHER DEGREE AND NON-DEGREE PROGRAMS
- CREDIT
- NON-CREDIT

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